

TNF-gamma

1 CCCAATCAAGAGAAATTCCATACTATCACCAGTTGCCCGACTTTCCAAGTCTAGTGCAGA 60  
 61 AATCCAAGGCACCTCACACCTAGAGTTCCTATACCTCTGAGACTCCAGAGGAAAGAACAA 120  
 121 GACAGTGCAGAAGGATATGTTAGAACCCACTGAAAACCTAGAAGGTTGAAAAGGAAGCAT 180  
 181 ACCCTCCTGACCTATAAGAAAATTTTCAGTCTGCAGGGGATATCCTTGTGGCCCAAGAC 240  
 241 ATTGGTGTATCATTTGACTAAGAGGAAATTATTTGTGGTGAGCTCTGAGTGAGGATTAG 300  
 301 GACCAGGGAGATGCCAAGTTTCTATCACTTACCTCATGCCTGTAAGACAAGTGTTTGT 360  
 361 CCAATTGATGAATGGGAGAAAACAGTTCAGCCAATCACTTATGGGCACAGAATGGAATT 420  
 421 TGAAGGGTCTGGTGCCTGCCCTTGTACATACGTAAACAAGAGAGGCATCGATGAGTTTTAT 480  
 481 CTGAGTCATTTGGGAAAGGATAATTCTTGACCAAGCCAATTTTCCTAAACACAGAAGAAT 540  
 541 AGGGGGATTCTTAACCTTCATTGTTCTCCAGGATCATAGGTCTCAGGATAAATTAAAAA 600  
 601 TTTTCAGGTCAGACCACTCAGTCTCAGAAAGGCAAAGTAATTTGCCCCAGGTCAGTAGTC 660  
 661 CAAGATGTTATTCTCTTTGAACAAATGTGTATGTCCAGTCACATATTCTTCATTATTCC 720  
 721 TCCCCAAAGCAGTTTTTAGCTGTTAGGTATATTGATCACITTAGTCTATTTTGAAAATG 780  
 781 ATATGAGACGCTTTTTAAGCAAAGTCTACAGTTTCCCAATGAGAAAATTAATCCTCTTTC 840  
 1 M R R F L S K V Y S F P M R K L I L F L 20  
 841 TTGTCTTTCCAGTTGTGAGACAACTCCACACAGCACTTTAAAAATCAGTTCCAGCTC 900  
 21 V F P V V R Q T P T Q H F K N Q F P A L 40  
 901 TGCACTGGGAACATGAAGTGGCCTTCCCAAGAACCGAATGAAGTATACCAACA 960  
 41 H W E H E L G L A F T K N R M N Y T N K 60  
 961 AATTCCTGCTGATCCCAGAGTCGGGAGACTACTTCATTTACTCCCAGGTCACATCCGTG 1020  
 61 F L L I P E S G D Y F I Y S Q V T F R G 80

FIG. 1A

## TNF-gamma

1021	GGATGACCTCTGAGTGCAGTGAATCAGACAAGCAGGCCGACCAAACAAGCCAGACTCCA	1080
81	M T S E C S E I R Q A G R P N K P D S I	100
1081	TCACTGTGGTCATCACCAAGGTAACAGACAGCTACCCTGAGCCAACCCAGCTCCTCATGG	1140
101	T V V I T K V T D S Y P E P T Q L L M G	120
1141	GGACCAAGTCTGTATGCGAAGTAGGTAGCAACTGGTTCAGCCCATCTACCTCGGAGCCA	1200
121	T K S V C E V G S N W F Q P I Y L G A M	140
1201	TGTTCTCCTTGCAAGAAGGGGACAAGCTAATGGTGAACGTCAGTGACATCTCTTTGGTGG	1260
141	F S L Q E G D K L M V N V S D I S L V D	160
1261	ATTACACAAAAGAAGATAAAACCTTCTTTGGAGCCTTCTTACTATAGGAGGAGAGCAAAT	1320
161	Y T K E D K T F F G A F L L *	175
1321	ATCATTATATGAAAGTCCTCTGCCACCGAGTTCCTAATTTTCTTTGTTCAAATGTAATTA	1380
1381	TAACCAGGGGTTTTCTTGGGGCCGGGAGTAGGGGGCATTCCACAGGGACAACGGTTTAGC	1440
1441	TATGAAATTTGGGGCCAAAATTCACACTTCATGTGCCTTACTGATGAGAGTACTAACTG	1500
1501	GAAAAAGGCTGAAGAGAGCAAATATATTATTAAGATGGGTGGAGGATTGGCGAGTTTCT	1560
1561	AAATATTAAGACACTGATCACTAAATGAATGGATGATCTACTCGGGTCAGGATTGAAAGA	1620
1621	GAAATATTTCAACACCTCCCTGCTATACAATGGTCACCAGTGGTCCAGTTATTGTTCAAT	1680
1681	TTGATCATAAATTTGCTTCAATTCAGGAGCTTTGAAGGAAGTCCAAGGAAAGCTCTAGAA	1740
1741	AACAGTATAAACTTTTACAGGGCAAAATCCTTCACCAATTTTCCACATACTTTTCATGCCT	1800
1801	TGCCTAAAAAAAATGAAAAGAGAGTTGGTATGTCTCATGAATGTTACACAGAAGGAGTT	1860
1861	GGTTTTTCATGTCATCTACAGCATATGAGAAAAGCTACCTTTCTTTTGATTATGTACACAG	1920
1921	ATATCTAAATAAGGAAGTTTGAGTTTCACATGTATATCCCAAATACAACAGTTGCTTGTA	1980
1981	TTCAGTAGAGTTTTCTTGCCACCTATTTTGTGCTGGGTCTACCTTAACCCAGAAGACA	2040

FIG. 1B

## TNF-gamma

2041 CTATGAAAAACAAGACAGACTCCACTCAAATTTATATGAACACCACTAGATACTTCCTG 2100  
2101 ATCAAACATCAGTCAACATACTCTAAAGAATAACTCCAAGTCTTGGCCAGGCCGAGTGGC 2160  
2161 TCACACCTGTAATCCCAACACTTTGGGAGGCCAAGGTGGGTGGATCATCTAAGGCCGGGA 2220  
2221 GTTCAAGACCAGCCTGACCAACGTGGAGAAACCCCATCTCTACTNAAAATACNAAATTAG 2280  
2281 CCGGGCGTGGTAGCGCATGGCTGTAANCCTGGCTACTCAGGAGGCCGAGGCAGAANAATT 2340  
2341 NCTTGAAGTGGGAGGCAGAGGTTGCGGTGAGCCCAGANCGGCCATTGCACTCCAGCCT 2400  
2401 GGGTAACAAGAGCAAAACTCTGTCCAAAAAAAAAAAAAAAAAAAA 2442

FIG. 1C

	TNFgamma	TNFalpha	TNFBeta	LTbeta	FASL
1	M	-	-	-	-
1	M	-	-	-	-
1	M	-	-	-	-
1	M	-	-	-	-
1	M	-	-	-	-
2	-	-	-	-	-
9	-	-	-	-	-
9	-	-	-	-	-
5	-	-	-	-	-
31	-	-	-	-	-
2	-	-	-	-	-
16	-	-	-	-	-
9	-	-	-	-	-
26	-	-	-	-	-
61	-	-	-	-	-
14	-	-	-	-	-
44	-	-	-	-	-
28	-	-	-	-	-
46	-	-	-	-	-
91	-	-	-	-	-
26	-	-	-	-	-
69	-	-	-	-	-

FIG. 2A

MATCH WITH FIG. 2B

MATCH WITH FIG. 2A

MATCH WITH FIG. 2A

40	T	P	S	A	A	Q	T	A	R	Q	H	P	K	M	H	L	A	H	S	T	L	K	P	A	A	H	L	L	G	TNFbeta			
71	F	-	-	-	-	Q	K	L	P	E	E	P	P	E	T	D	L	S	P	G	L	-	-	P	A	A	H	L	L	G	LTbeta		
121	V	S	S	F	E	K	Q	I	A	N	P	S	T	P	S	E	T	K	K	P	-	-	R	S	V	A	H	L	L	G	FASL		
38	-	-	-	-	-	P	-	A	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	TNFgamma		
95	N	P	Q	S	A	E	Q	-	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TNFalpha		
70	D	A	P	P	L	R	S	S	I	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TNFbeta		
95	N	P	Q	S	A	E	Q	-	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	LTbeta		
149	N	P	Q	S	A	E	Q	-	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	FASL		
61	F	L	L	I	P	E	S	G	D	V	F	I	Y	S	Q	V	T	L	V	G	Y	F	R	G	M	T	S	E	C	-	-	TNFgamma	
123	Q	L	V	V	P	S	E	G	L	V	F	L	I	Y	S	Q	V	T	L	V	G	Y	F	R	G	M	T	S	E	-	-	-	TNFalpha
98	S	L	L	V	P	T	S	G	I	V	F	L	I	Y	S	Q	V	T	L	V	G	Y	F	R	G	M	T	S	E	-	-	-	TNFbeta
124	G	L	A	L	P	Q	D	G	L	V	Y	L	V	Y	S	C	L	K	Y	-	-	-	-	-	-	-	-	-	-	-	-	LTbeta	
177	G	L	V	I	N	E	A	G	L	V	Y	L	V	Y	S	C	L	K	Y	-	-	-	-	-	-	-	-	-	-	-	-	FASL	
91	A	G	R	P	N	K	T	S	S	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TNFgamma	
146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TNFalpha	
125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TNFbeta	
154	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	LTbeta	
204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	FASL	

TNFbeta  
LTbeta  
FASLTNFgamma  
TNFalpha  
TNFbeta  
LTbeta  
FASLTNFgamma  
TNFalpha  
TNFbeta  
LTbeta  
FASLTNFgamma  
TNFalpha  
TNFbeta  
LTbeta  
FASL

MATCH WITH FIG. 2C

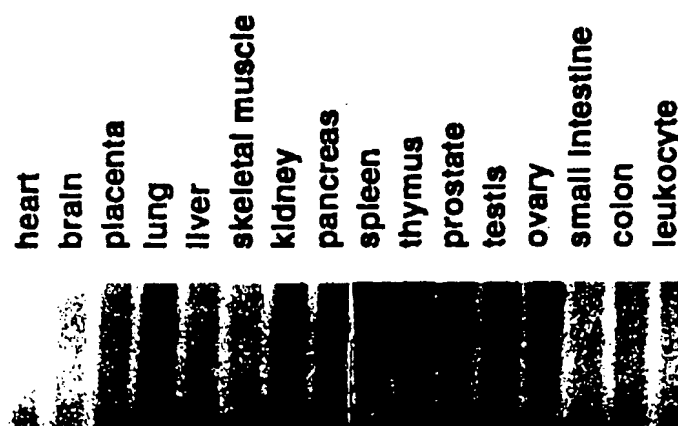
FIG.2B



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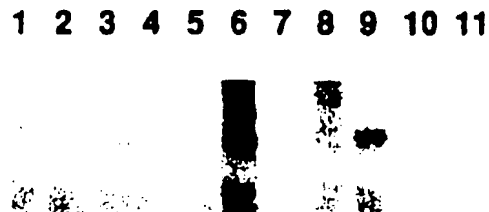
**FIG. 3A**

**Tissue distribution of TNFgamma mRNA**

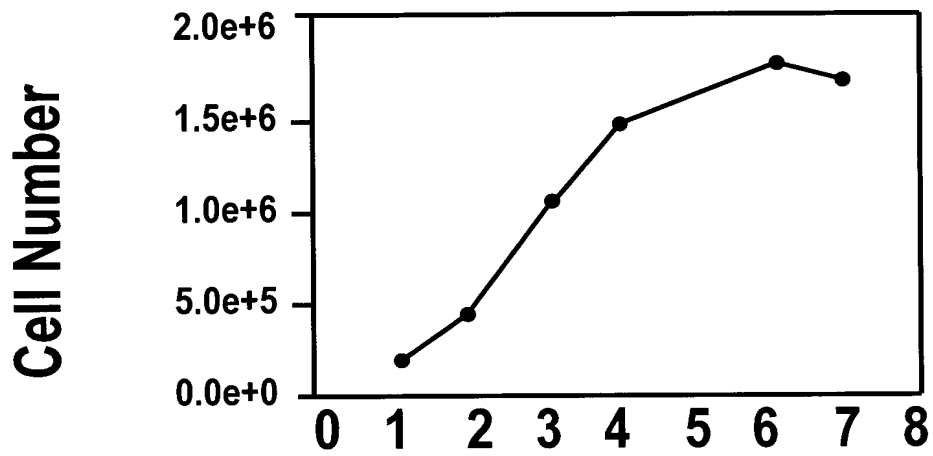


**FIG. 3B**

**Expression of TNFgamma in HUVEC**



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TNF-gamma

Beta-actin

Days

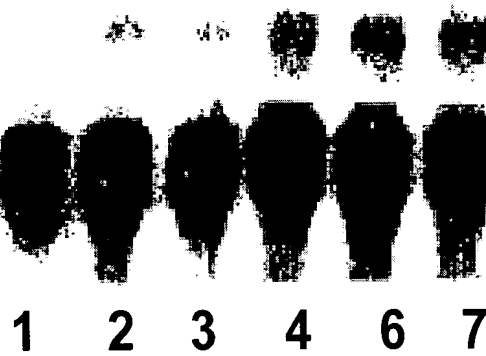


FIG. 4



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Expression of TNF $\gamma$  in *E. coli*

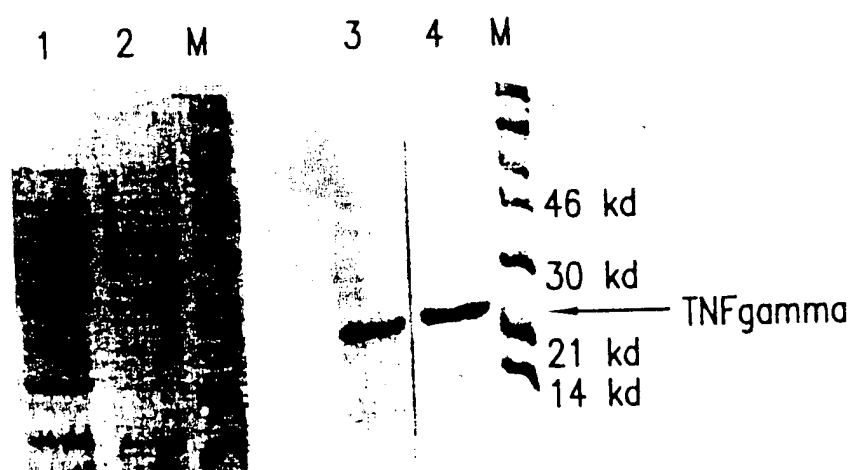


FIG.5

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Expression of  $\text{TNF}_\gamma$  in baculovirus system



FIG.6

WEHI164  
TNF $\alpha$



FIG. 7Ab

WEHI164  
Control



FIG. 7Aa

WEHI164  
TNF $\beta$

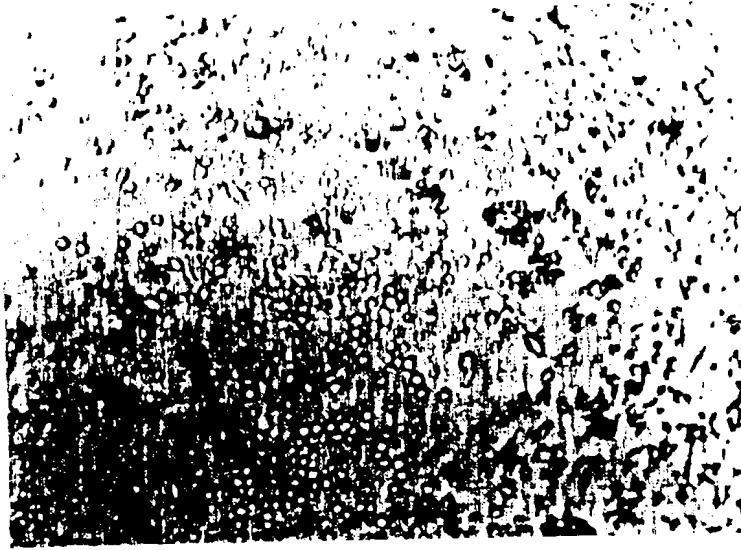


FIG. 7Ad

WEHI164  
TNF $\gamma$

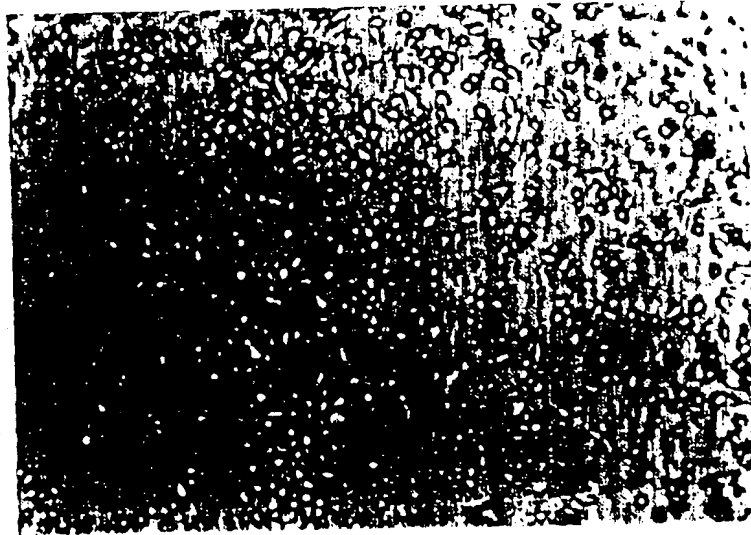


FIG. 7Ac

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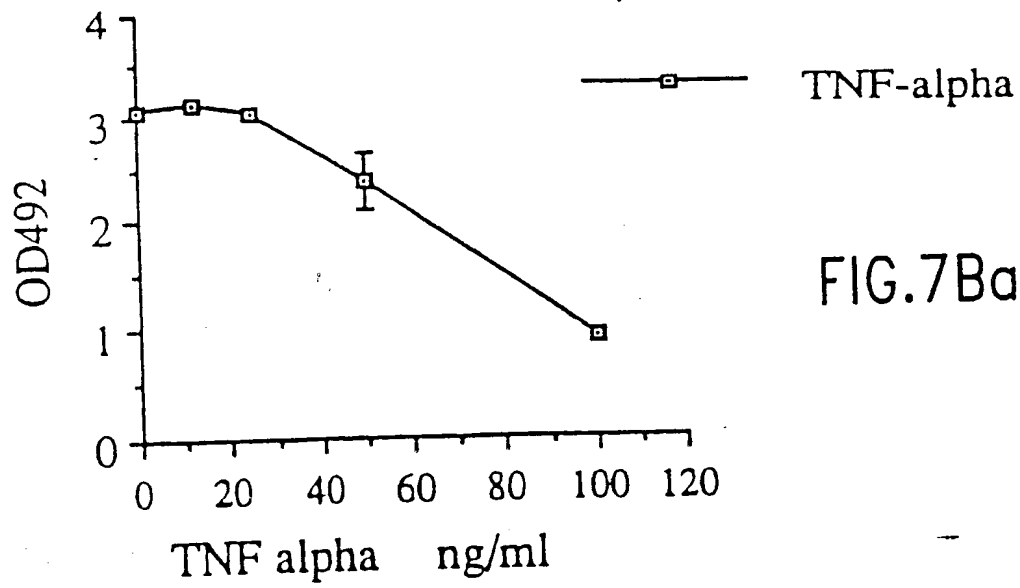


FIG.7Ba

FIG.7Bb

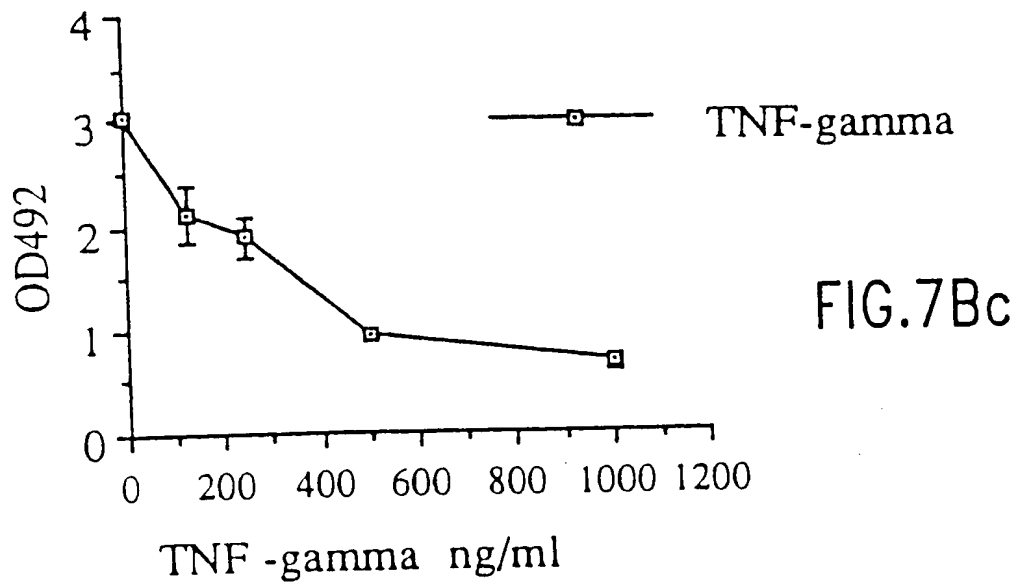
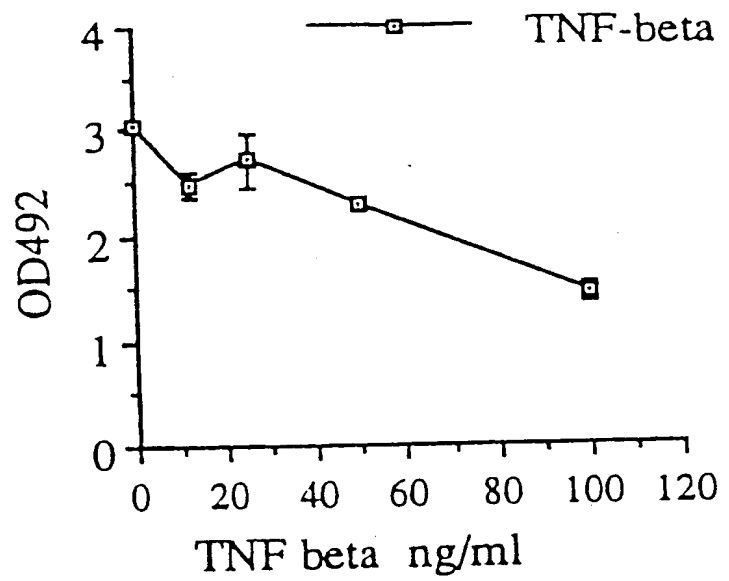


FIG.7Bc

L929  
TNF $\alpha$

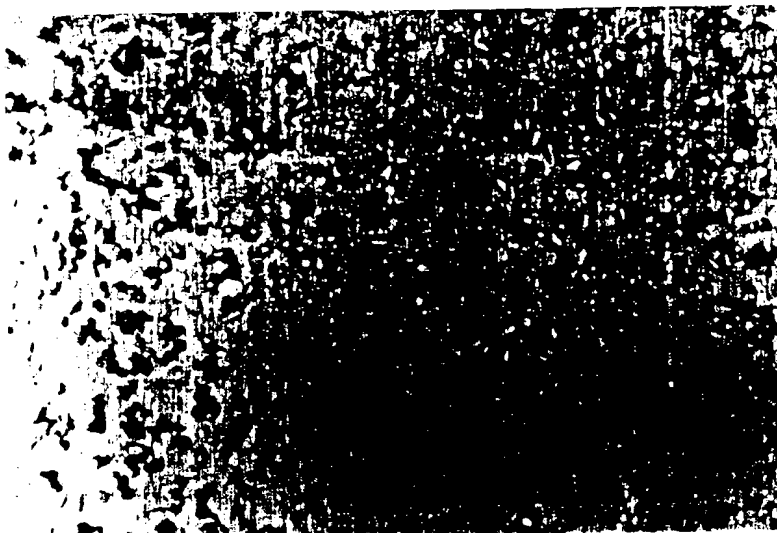


FIG.8B

L929  
Control

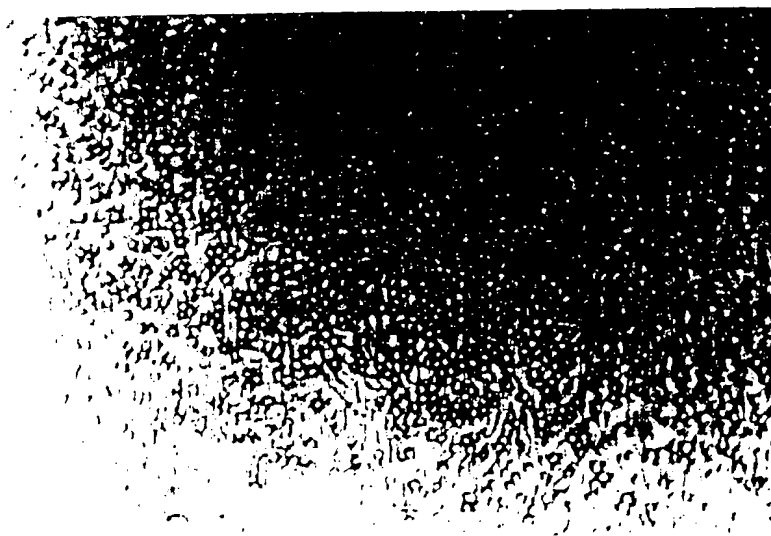


FIG.8A

L929  
TNF $\beta$

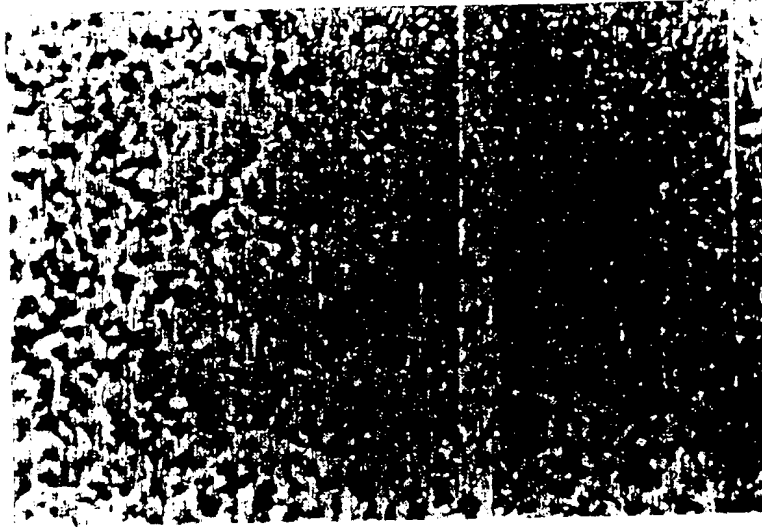


FIG.8D

L929  
TNF $\gamma$

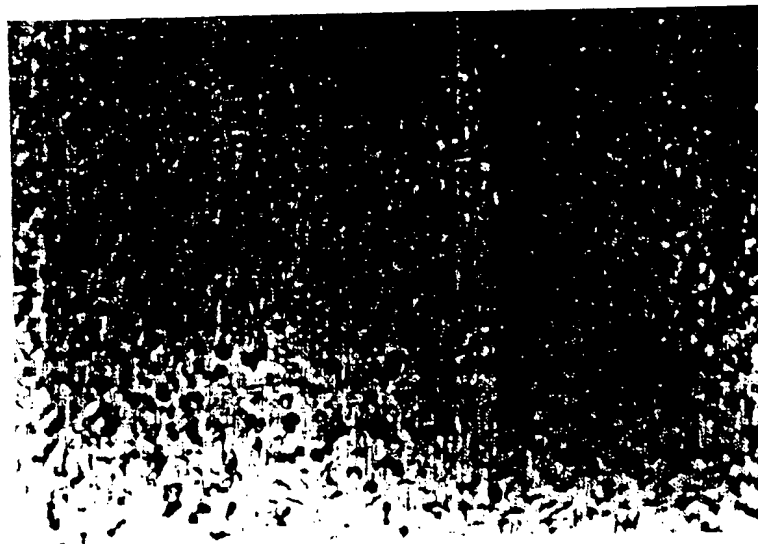


FIG.8C

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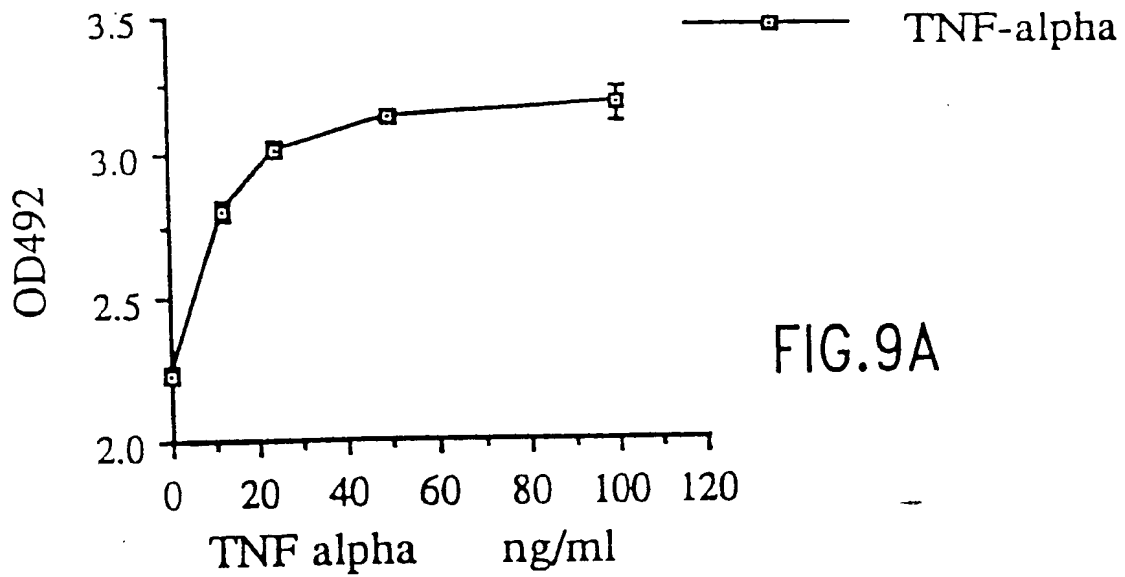


FIG.9A

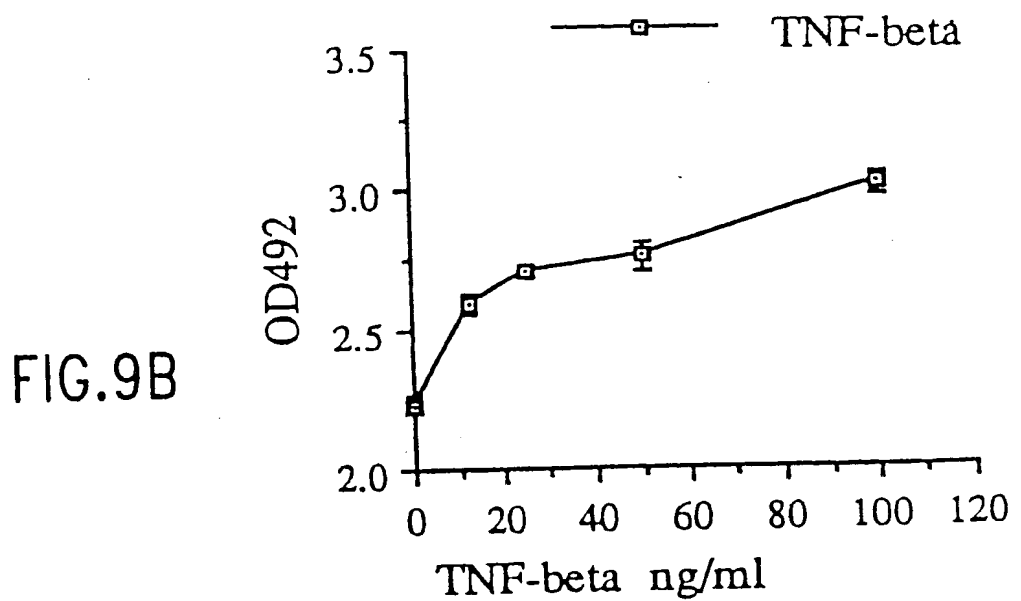


FIG.9B

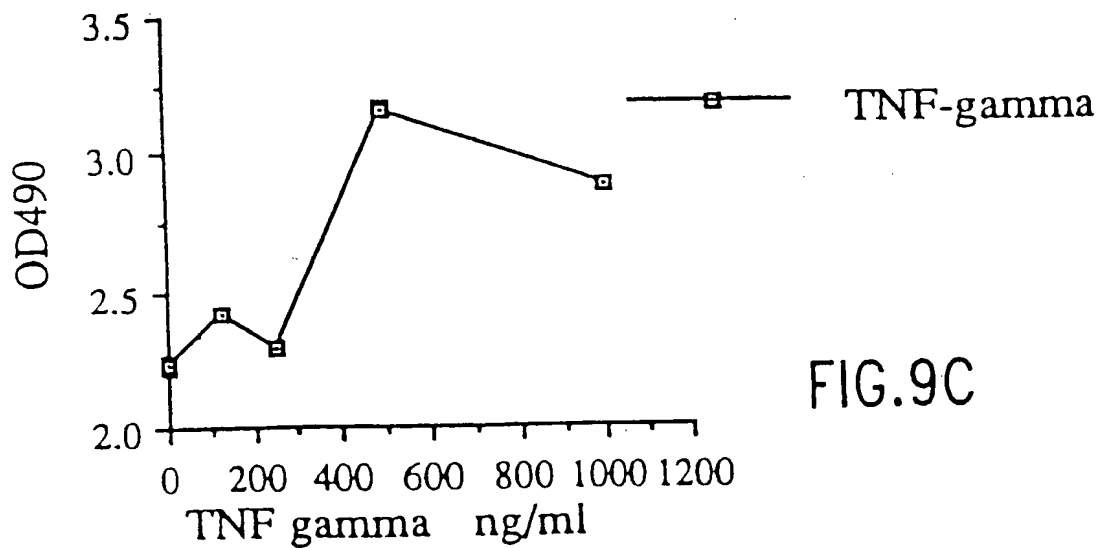


FIG.9C



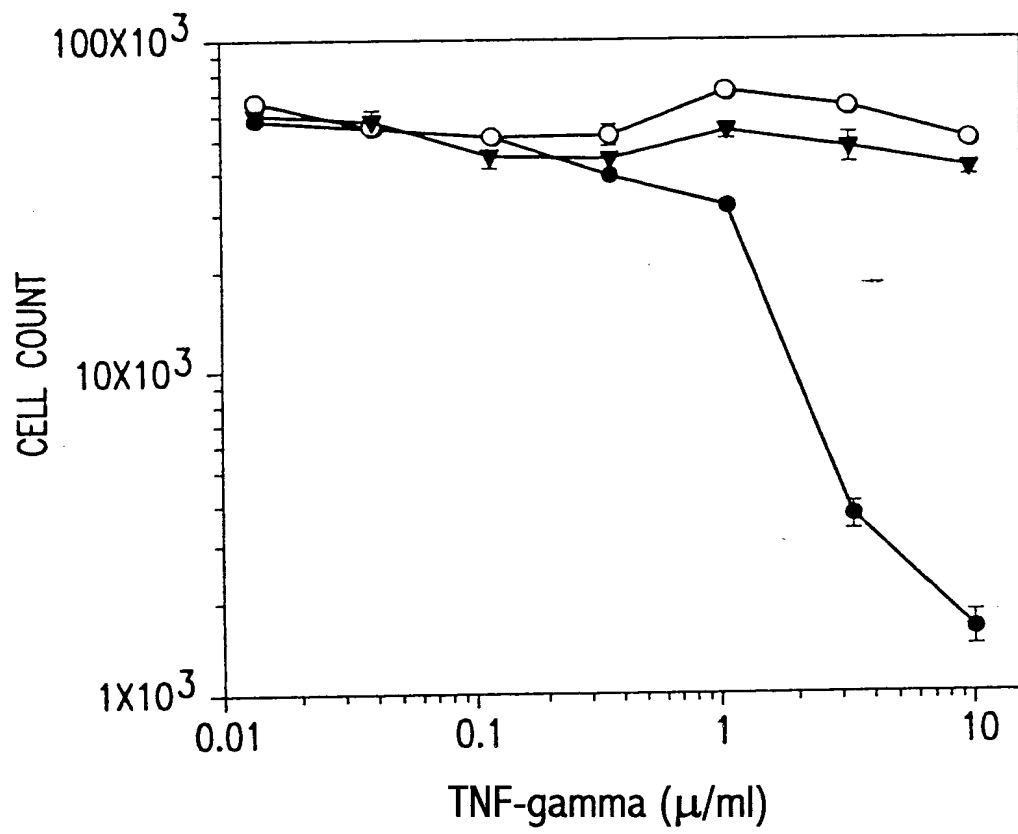


FIG.10

HL60  
TNF $\alpha$

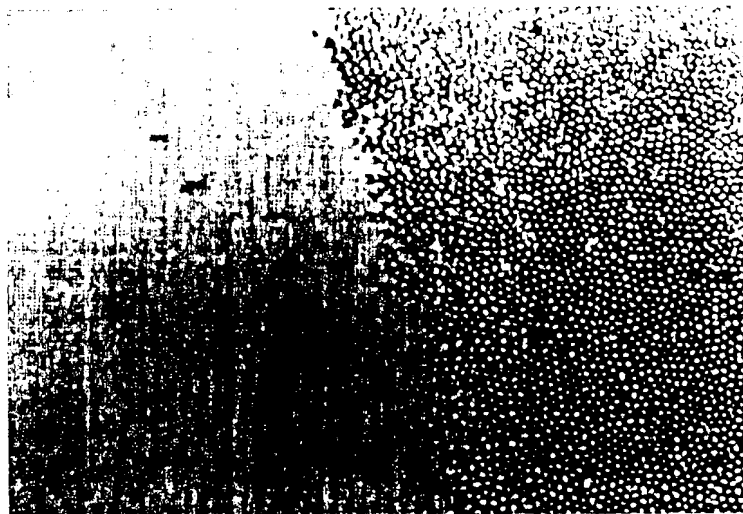


FIG.11B

HL60  
Control

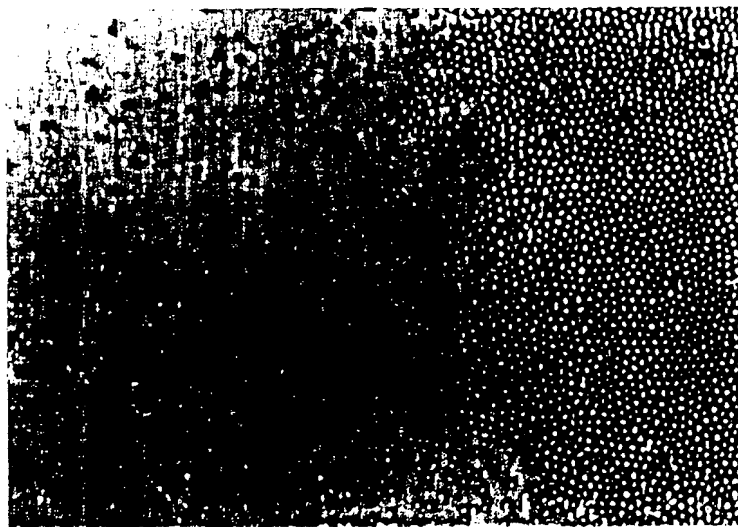


FIG.11A

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HL60  
TNF $\gamma$

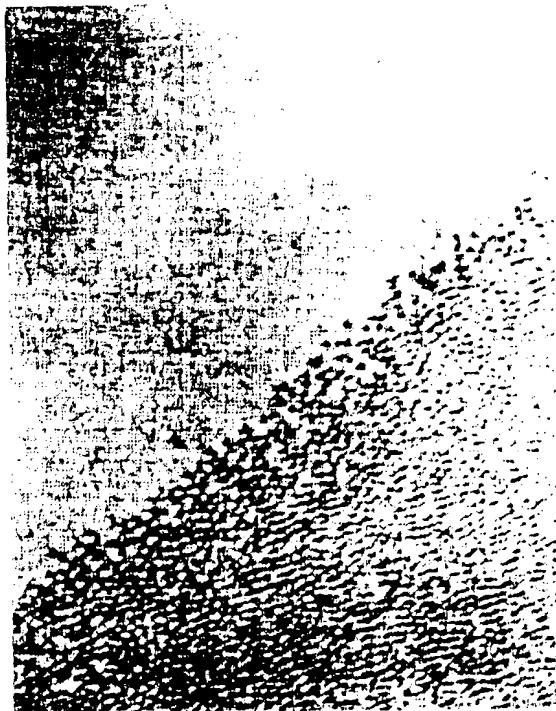


FIG.11C

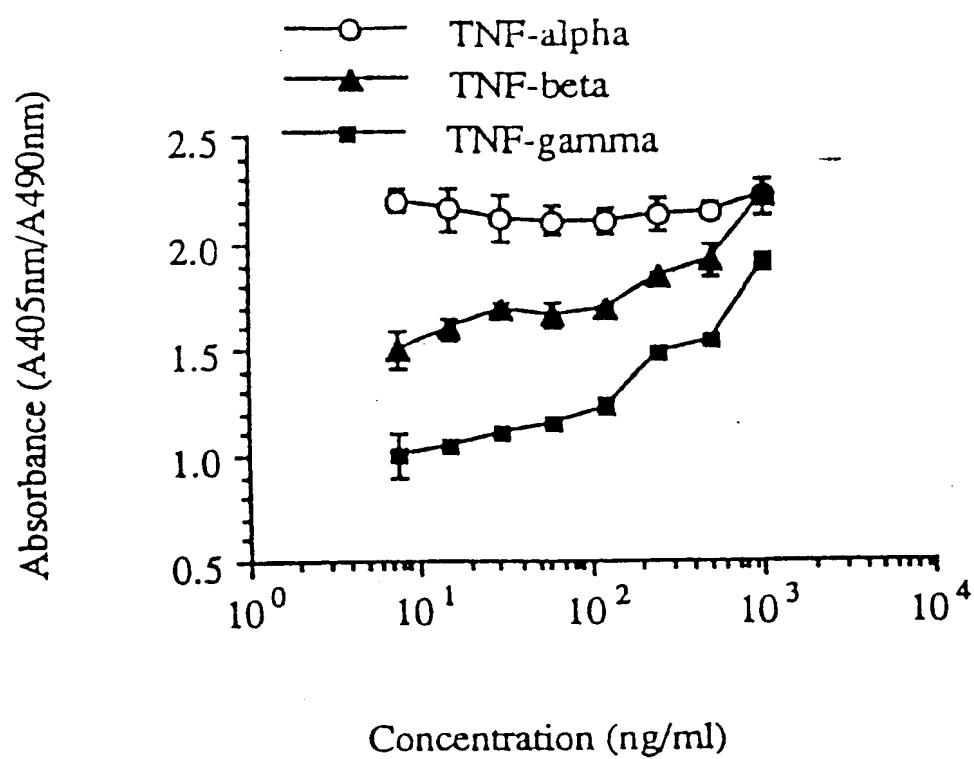


FIG.12

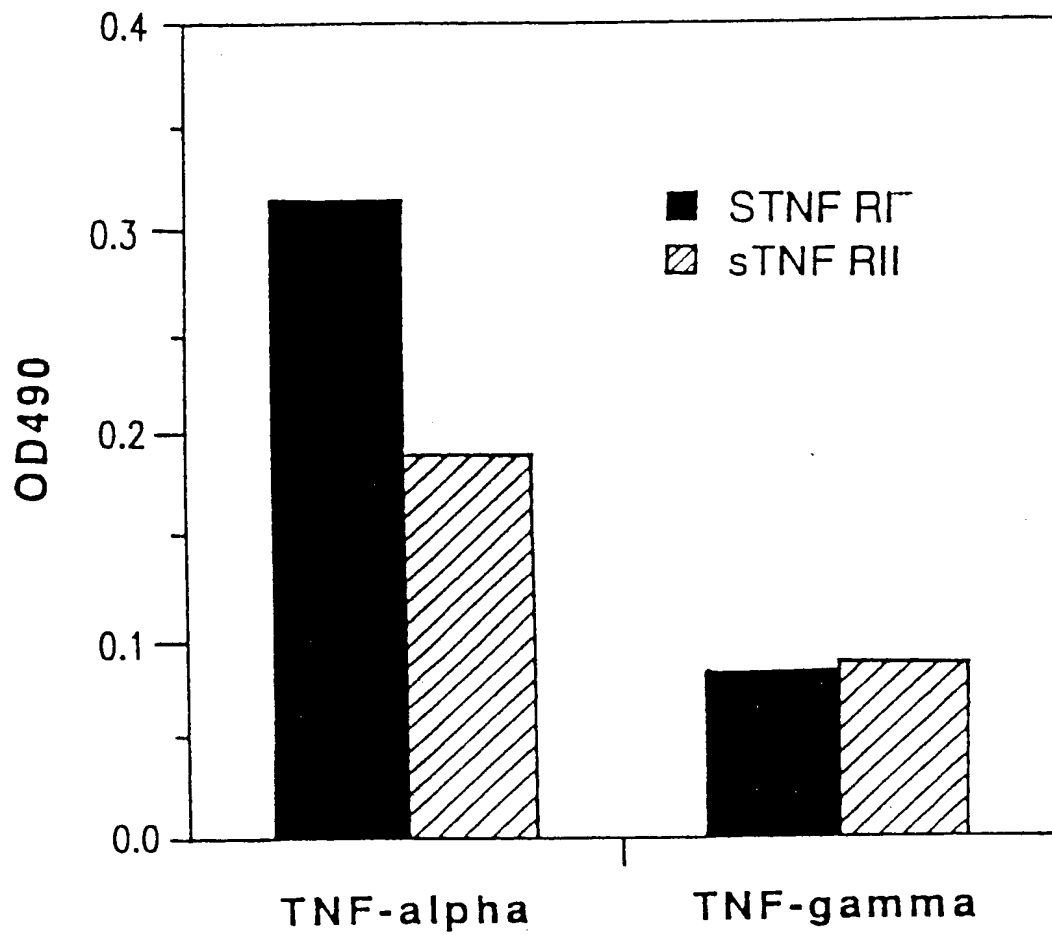


FIG.13

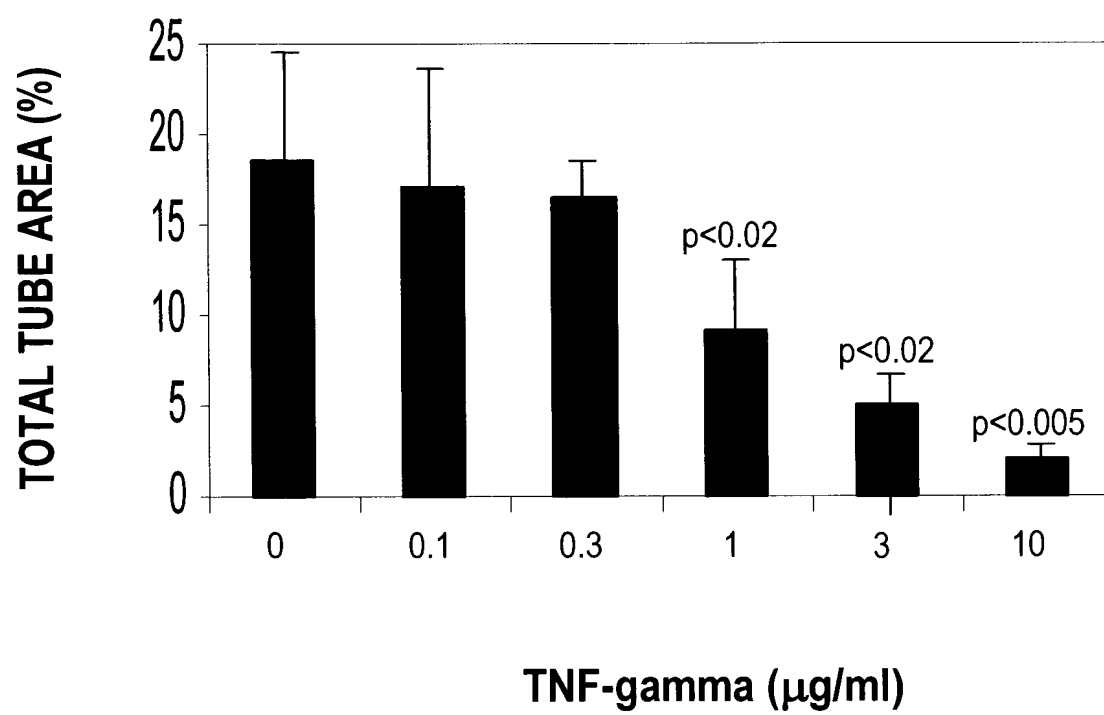


FIG. 14

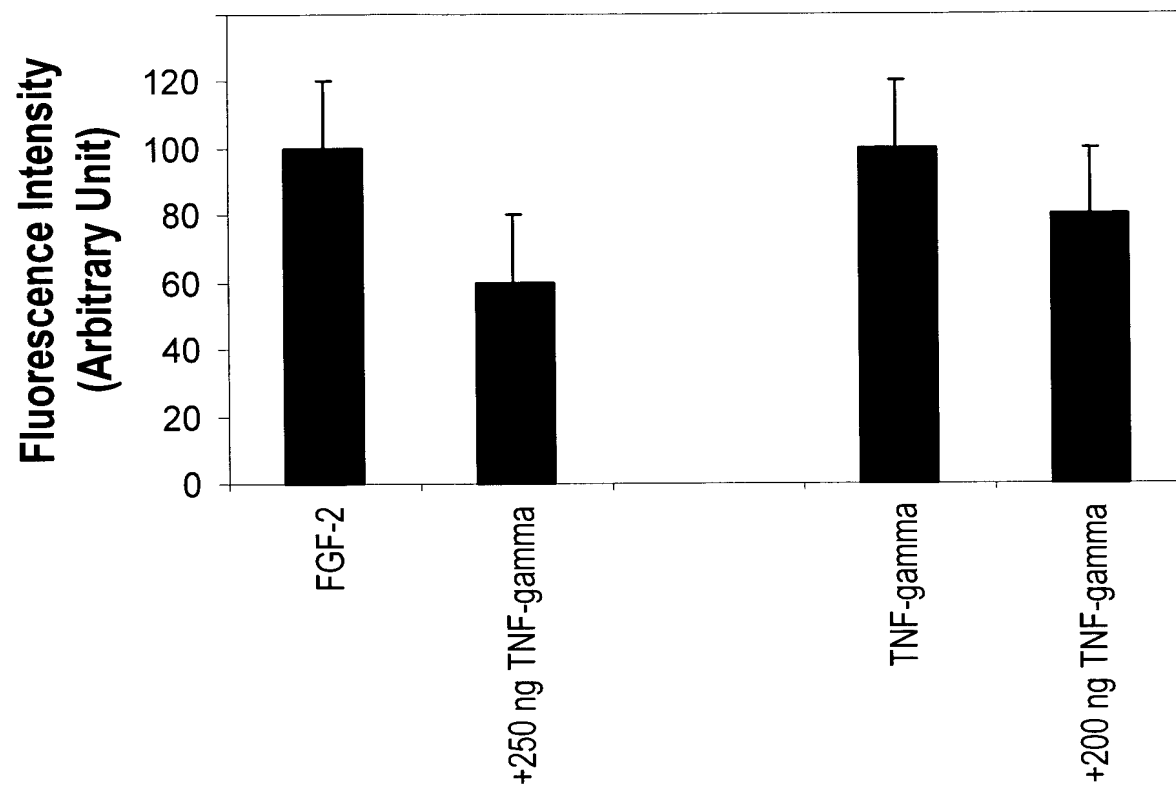


FIG. 15

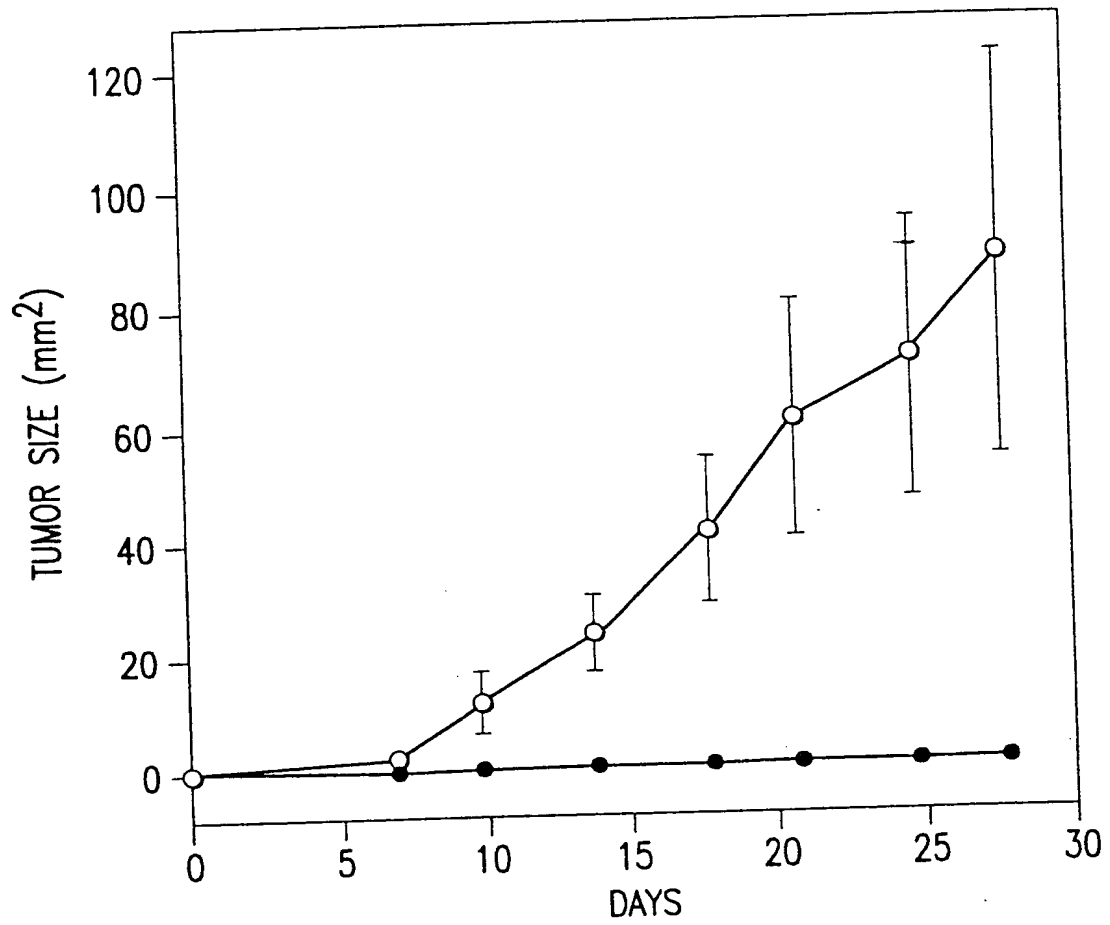


FIG. 16A



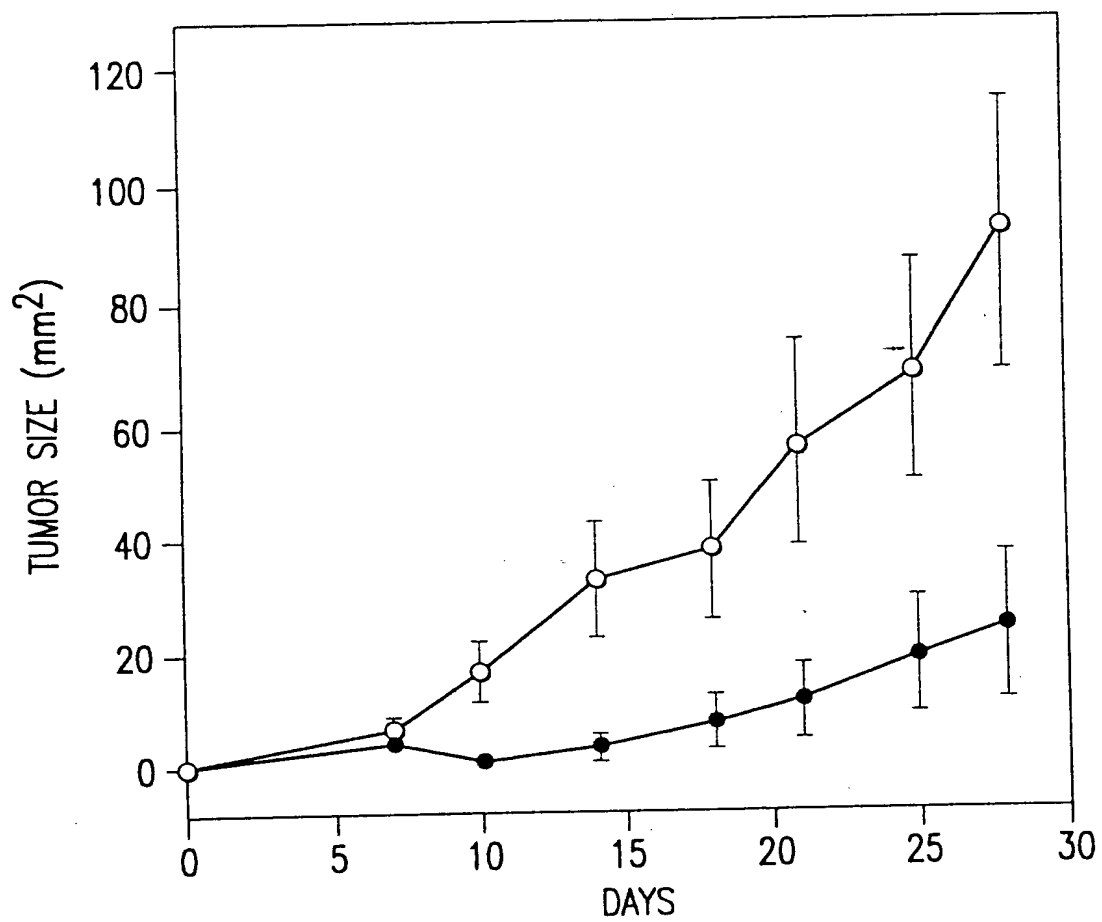


FIG. 16B

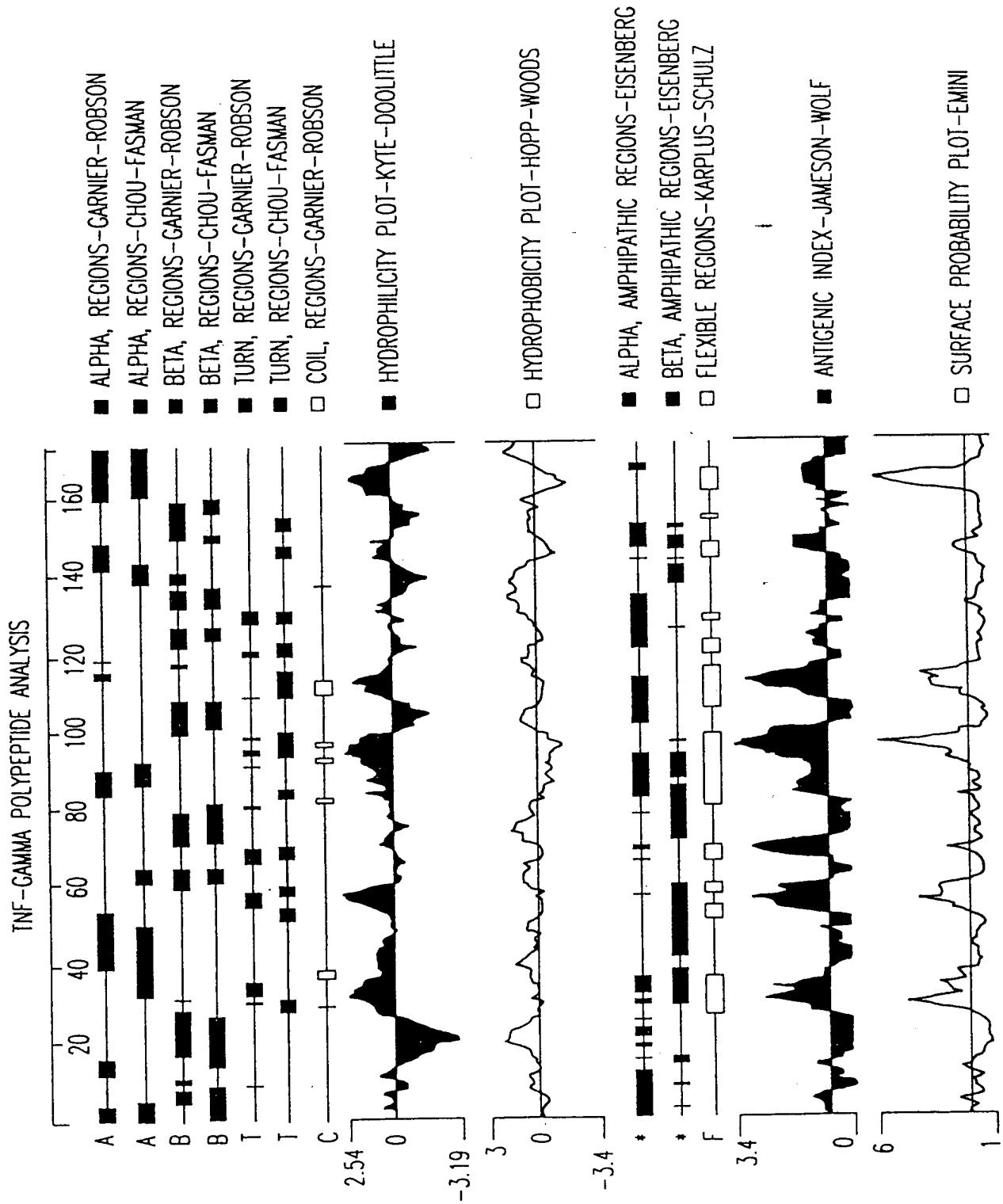


FIG. 17

## TNF-gamma-alpha vs. TNF-gamma-beta

TNF-gamma-alpha	1	CCCAATCAAGAGAAATTCATACTATCACCAGTTGGCCGACTTTCCAAG	49
TNF-gamma-alpha	50	TCTAGTGCAGAAATCCAAGGCACCTCACACCTAGAGTTCCTATACCTCTG	99
TNF-gamma-alpha	100	AGACTCCAGAGGAAAGAACAAGACAGTGCAGAAGGATATGTTAGAACCCA	149
TNF-gamma-alpha	150	CTGAAAACCTAGAAAGTTGAAAAGGAAGCATACCCTCCTGACCTATAAGA	199
TNF-gamma-alpha	200	AAATTTTCAGTCTGCAGGGGATATCCTTGTGGCCCAAGACATTGGTGTT	249
TNF-gamma-alpha	250	ATCATTTGACTAAGAGGAAATTATTTGTGGTGAGCTCTGAGTGAGGATTA	299
TNF-gamma-alpha	300	GGACCAGGGAGATGCCAAGTTTCTATCACTTACCTCATGCCTGTAAGACA	349
TNF-gamma-alpha	350	AGTGTTTTGTTCCAATTGATGAATGGGGAGAAAACAGTTCAGCCAATCAC	399
TNF-gamma-alpha	400	TTATGGGCACAGAATGGAATTTGAAGGTCTGGTGCCTGCCCTTGTCATA	449
TNF-gamma-alpha	450	CGTAAACAAGAGAGGCATCGATGAGTTTTATCTGAGTCATTTGGGAAAGG	499
TNF-gamma-alpha	500	ATAATTCTTGCACCAAGCCATTTTCTAAACACAGAAGAATAGGGGGATT	549
TNF-gamma-alpha	550	CCTTAACCTTCATTGTTCTCCAGGATCATAGGTCTCAGGATAAATTAAAA	599
TNF-gamma-beta	1	ATGGCCGAGGATCTGGCACTGAGCTTTGGGAAACAGCCAGTGTGGAA	48
TNF-gamma-alpha	600	ATTTTCAGGTCAGACCACTCAGTCTCAGAAAGCCAAAGTAATTTGCCCCA	649
TNF-gamma-beta	49	ATGCTGCCAGAGCACGGCAGCTGCAGGCCCAAGGCCAGGAGCAGCAGCGC	98
TNF-gamma-alpha	650	GGTCACTAGTCCAAGATGTTATTCTCTTTGAACAAATGTGTATGTCCAGT	699
TNF-gamma-beta	99	ACGCTGGGCTCTCACCTGCTGCCTGGTGTGCTCCCCTTCCTGCAGGAC	148
TNF-gamma-alpha	700	CACATATTCTTCATTATTCCTCCCCAAAGCAGTTTTTAGCTGTTAGGTA	749
TNF-gamma-beta	149	TCACCACATACCTGCTTGTGAGCCAGCTCCGGCCCCAGGGAGAGGCCTGT	198
TNF-gamma-alpha	750	TATTCGATCACTTTAGTCTATTTTGAAAATGATATGAGACGCTTTTAAAG	799
TNF-gamma-beta	199	GTGCAGTTCAGGCTCTAAAAGGACAGGAGTTGCACCTTCACATCAGCA	248

FIG. 18A

## TNF-gamma-alpha vs. TNF-gamma-beta

TNF-gamma-alpha	800	CAAAGTCTACAGTTTCCCAATGAGAAAATTAATCCTCTTTCTTGTCTTTC	849
TNF-gamma-beta	249	AGTTTATGCACCTCTTAGAGCAGACGGAGATAAGCCAAGGGCACACCTGA	298
TNF-gamma-alpha	850	CAGTTGTGAGACAACTCCACACAGCACTTAAAAATCAGTTCCCAGCT	899
TNF-gamma-beta	299	CAGTTGTGAGACAACTCCACACAGCACTTAAAAATCAGTTCCCAGCT	348
TNF-gamma-alpha	900	CTGCACTGGGAACATGAAGTGGCCTGGCCTTCACCAAGAACCGAATGAA	949
TNF-gamma-beta	349	CTGCACTGGGAACATGAAGTGGCCTGGCCTTCACCAAGAACCGAATGAA	398
TNF-gamma-alpha	950	CTATACCAACAAATTCCTGCTGATCCCAGAGTCGGGAGACTACTTCATT	999
TNF-gamma-beta	399	CTATACCAACAAATTCCTGCTGATCCCAGAGTCGGGAGACTACTTCATT	448
TNF-gamma-alpha	1000	ACTCCCAGGTCACATTCGGTGGGATGACCTCTGAGTGCAGTGAATCAGA	1049
TNF-gamma-beta	449	ACTCCCAGGTCACATTCGGTGGGATGACCTCTGAGTGCAGTGAATCAGA	498
TNF-gamma-alpha	1050	CAAGCAGGCCGACCAACAAGCCAGACTCCATCACTGTGGTCATCACCAA	1099
TNF-gamma-beta	499	CAAGCAGGCCGACCAACAAGCCAGACTCCATCACTGTGGTCATCACCAA	548
TNF-gamma-alpha	1100	GGTAACAGACAGCTACCCTGAGCCAACCCAGCTCCTCATGGGGACCAAGT	1149
TNF-gamma-beta	549	GGTAACAGACAGCTACCCTGAGCCAACCCAGCTCCTCATGGGGACCAAGT	598
TNF-gamma-alpha	1150	CTGTATGCGAAGTAGGTAGCAACTGGTTCCAGCCCATCTACCTCGGAGCC	1199
TNF-gamma-beta	599	CTGTATGCGAAGTAGGTAGCAACTGGTTCCAGCCCATCTACCTCGGAGCC	648
TNF-gamma-alpha	1200	ATGTTCTCCTTGCAAGAAGGGGACAAGCTAATGGTGAACGTCAGTGACAT	1249
TNF-gamma-beta	649	ATGTTCTCCTTGCAAGAAGGGGACAAGCTAATGGTGAACGTCAGTGACAT	698
TNF-gamma-alpha	1250	CTCTTTGGTGGATTACACAAAAGAAGATAAAACCTTCTTTGGAGCCTTCT	1299
TNF-gamma-beta	699	CTCTTTGGTGGATTACACAAAAGAAGATAAAACCTTCTTTGGAGCCTTCT	748
TNF-gamma-alpha	1300	TACTATAGGAGGAGAGCAAATATCATTATATGAAAGTCCTCTGCCACCGA	1349
TNF-gamma-beta	749	TACTATAGGAGGAGAGCAAATATCATTATATGAAAGTCCTCTGCCACCGA	798
TNF-gamma-alpha	1350	GTTCCCTAATTTCTTTGTTCAAATGTAATTATAACCAGGGGTTTCTTGG	1399
TNF-gamma-beta	799	GTTCCCTAATTTCTTTGTTCAAATGTAATTATAACCAGGGGTTTCTTGG	848
TNF-gamma-alpha	1400	GGCCGGGAGTAGGGGGCATTCACAGGGACAACGGTTTAGCTATGAAATT	1449
TNF-gamma-beta	849	GGCCGGGAGTAGGGGGCATTCACAGGGACAACGGTTTAGCTATGAAATT	897

FIG. 18B

## TNF-gamma-alpha vs. TNF-gamma-beta

TNF-gamma-alpha 1450 TGGGG.CCAAAATTTACACTTCATGTGCCTTACTGATGAGAGTACTAAC 1498  
 ||||| ||||||||||||||||||||||||||||||||||||||||  
 TNF-gamma-beta 898 TGGGGCCCAAAATTTACACTTCATGTGCCTTACTGATGAGAGTACTAAC 947  
 TNF-gamma-alpha 1499 TGGAAAAGGCTGAAGAGAGCAAATATATTATTAAGATGGGTTGGAGGAT 1548  
 ||||||||||||||||||||||||||||||||||||||||  
 TNF-gamma-beta 948 TGGAAAAGGCTGAAGAGAGCAAATATATTATTAAGATGGGTTGGAGGAT 997  
 TNF-gamma-alpha 1549 TGGCGAGTTTCTAAATATTAAGACACTGATCACTAAATGAATGGATGATC 1598  
 ||||||||||||||||||||||||||||||||||||||||  
 TNF-gamma-beta 998 TGGCGAGTTTCTAAATATTAAGACACTGATCACTAAATGAATGGATGATC 1047  
 TNF-gamma-alpha 1599 TACTCGGGTCAGGATTGAAAGAGAAATATTTCAACACCTCCCTGCTATAC 1648  
 ||||||||||||||||||||||||||||||||||||||||  
 TNF-gamma-beta 1048 TACTCGGGTCAGGATTGAAAGAGAAATATTTCAACACCTCCCTGCTATAC 1097  
 TNF-gamma-alpha 1649 AATGGTCACCAGTGGTCCAGTTATTGTTCAATTTGATCATAAATTTGCTT 1698  
 ||||||||||||||||  
 TNF-gamma-beta 1098 AATGGTCACCAGTGGTCCA 1116  
 TNF-gamma-alpha 1699 CAATTCAGGAGCTTTGAAGGAAGTCCAAGGAAAGCTCTAGAAAACAGTAT 1748  
 TNF-gamma-alpha 1749 AAACCTTCAGAGGCAAAATCCTTCACCAATTTTCCACATACTTTTCATGC 1798  
 TNF-gamma-alpha 1799 CTTCCTAAAAAAATGAAAAGAGAGTTGGTATGTCTCATGAATGTTTAC 1848  
 TNF-gamma-alpha 1849 ACAGAAGGAGTTGGTTTTTCATGTCATCTACAGCATATGAGAAAAGCTACC 1898  
 TNF-gamma-alpha 1899 TTTCTTTTGATTATGTACACAGATATCTAAATAAGGAAGTTTGAGTTTCA 1948  
 TNF-gamma-alpha 1949 CATGTATATCCCAAATACAACAGTTGCTTGTATTTCAGTAGAGTTTCTTG 1998  
 TNF-gamma-alpha 1999 CCCACCTATTTGTGCTGGGTTCTACCTTAACCCAGAAGACACTATGAAA 2048  
 TNF-gamma-alpha 2049 AACAAGACAGACTCCACTCAAAATTTATATGAACACCACTAGATACTTCC 2098  
 TNF-gamma-alpha 2099 TGATCAAACATCAGTCAACATACTCTAAAGAATAACTCCAAGTCTTGGCC 2148  
 TNF-gamma-alpha 2149 AGGCCAGTGGCTCACACCTGTAATCCCAACACTTTGGGAGGCCAAGGTG 2198  
 TNF-gamma-alpha 2199 GGTGGATCATCTAAGCCCGGAGTTCAAGACCAGCCTGACCAACGTGGAG 2248

FIG. 18C

## TNF-gamma-alpha vs. TNF-gamma-beta

TNF-gamma-alpha 2249 AAACCCCATCTCTACTNAAAATACNAAATTAGCCGGGCGTGGTAGCGCAT 2298  
TNF-gamma-alpha 2299 GGCTGTAANCCTGGCTACTCAGGAGGCCGAGGCAGAANAATTNCTTGAAC 2348  
TNF-gamma-alpha 2349 TGGGGAGGCAGAGGTTGCGGTGAGCCCAGANCCGCCATIGCACTCCAGC 2398  
TNF-gamma-alpha 2399 CTGGGTAACAAGAGCAAACTCTGTCCAAAAAAAAAAAAAAAAA 2442

FIG. 18D

## TNF-gamma-alpha vs. TNF-gamma-beta

TNF-gamma-beta	1	MAEDLGLSFGETASVEMLPEHGSCRPKARSSSARWALTCCLVLLPFLAGL	50
TNF-gamma-alpha	1	MRRFLSKVYSFPMRKLILFLVFP	23
TNF-gamma-beta	51	TTYLLVSQLRAGGEACVQFQALKGQEFAPSHQQVYAPLRADGDKPRAHLT	100
TNF-gamma-alpha	24	VVRQTPTQHFKNQFPALHWEHELGLAFTKNRMNYTNKFLLPESGDYFIY	73
TNF-gamma-beta	101	VVRQTPTQHFKNQFPALHWEHELGLAFTKNRMNYTNKFLLPESGDYFIY	150
TNF-gamma-alpha	74	SQVTFRGMTSECSEIRQAGRPNKPDSITVVI TKVTDSYPEPTQLLMGTKS	123
TNF-gamma-beta	151	SQVTFRGMTSECSEIRQAGRPNKPDSITVVI TKVTDSYPEPTQLLMGTKS	200
TNF-gamma-alpha	124	VCEVGSNWFQPIYLGAMFSLQEGDKLMVNVSDISLVDYTKEDKTFFGAFL	173
TNF-gamma-beta	201	VCEVGSNWFQPIYLGAMFSLQEGDKLMVNVSDISLVDYTKEDKTFFGAFL	250
TNF-gamma-alpha	174	L	174
TNF-gamma-beta	251	L	251

FIG. 19

## TNF-gamma-beta

1 ATGCGCGAGGATCTGGGACTGAGCTTTGGGAAACAGCCAGTGCGAAATGCTGCCAGAG 60  
 1 M A E D L G L S F G E T A S V E M L P E 20  
 61 CACGGCAGCTGCAGGCCCAAGGCCAGGAGCAGCAGCGCAGCTGGGCTCTCACCTGCTGC 120  
 21 H G S C R P K A R S S S A R W A L T C C 40  
 121 CTGGTGTGCTCCCCTTCCTTGCAGGACTCACCACATACCTGCTTGTACGCCAGCTCCGG 180  
 41 L V L L P F L A G L T T Y L L V S Q L R 60  
 181 GCGCAGGAGAGGCCCTGTGTGCAGTTCCAGGCTCTAAAAGGACAGGAGTTTGCACCTTCA 240  
 61 A Q G E A C V Q F Q A L K G Q E F A P S 80  
 241 CATCAGCAAGTTTATGCACCTCTTAGAGCAGACGGAGATAAGCCAAGGGCACACCTGACA 300  
 81 H Q Q V Y A P L R A D G D K P R A H L T 100  
 301 GTTGTGAGACAAACTCCCACACAGCACTTTAAAAATCAGTCCCAGCTCTGCACTGGGAA 360  
 101 V V R Q T P T Q H F K N Q F P A L H W E 120  
 361 CATGAAGTGGCTGGCCTTACCAAGAACCGAATGAAGTATACCAACAAATTCCTGCTG 420  
 121 H E L G L A F T K N R M N Y T N K F L L 140  
 421 ATCCAGAGTCGGGAGACTACTTCATTTACTCCAGGTCACATTCCGTGGGATGACCTCT 480  
 141 I P E S G D Y F I Y S Q V T F R G M T S 160  
 481 GAGTGCAGTGAAATCAGACAAGCAGGCCGACCAACAAGCCAGACTCCATCACTGTGGTC 540  
 161 E C S E I R Q A G R P N K P D S I T V V 180  
 541 ATACCAAGGTAACAGACAGCTACCCTGAGCCAACCCAGCTCCTCATGGGGACCAAGTCT 600  
 181 I T K V T D S Y P E P T Q L L M G T K S 200  
 601 GTATGCCAAGTAGGTAGCAACTGGTTCAGCCCATCTACCTCGGAGCCATGTTCTCCTTG 660  
 201 V C E V G S N W F Q P I Y L G A M F S L 220  
 661 CAAGAAGGGGACAAGCTAATGGTGAACGTCAGTGACATCTCTTGGTGGATTACACAAAA 720  
 221 Q E G D K L M V N V S D I S L V D Y T K 240  
 721 GAAGATAAAACCTTCTTTGGAGCCTTCTTACTATAGGAGGAGAGCAAATATCATTATATG 780  
 241 E D K T F F G A F L L 251  
 781 AAAGTCCTCTGCCACCGAGTTCCTAATTTCTTTGTTCAAATGTAATTATAACCAGGGGT 840  
 841 TTTCTTGGGCGGGGAGTAGGGGCATTCCACAGGACAACGGTTTAGCTATGAAATTTGG 900

FIG. 20A



## TNF-gamma-beta

901 GGGCCAAAATTTCACACTTCATGTGCCTTACTGATGAGAGTACTAACTGGAAAAAGGCTG 960  
961 AAGAGAGCAAATATATTATTAAGATGGGTGGAGGATTGGCGAGTTTCTAAATATTAAGA 1020  
1021 CACTGATCACTAAATGAATGGATGATCTACTCGGGTCAGGATTGAAAGAGAAATATTTCA 1080  
1081 ACACCTTCCTGCTATACAATGGTCACCACTGGTCCA 1116

FIG. 20B